

The Selfexplication of Thinking through AI

Ruth Hagenruber

19.10.2004
SIG: Philosophy and Informatics

Ruth Hagenruber
[www. uni-koblenz.de/~hagenru](http://www.uni-koblenz.de/~hagenru)

1. Thesis

1. There is a strong relationship between thinking and a *formalized representation* of thoughts (knowledge)
2. Thinking refers to its representability for (intrinsic) epistemological reasons.
3. Formalization supports ontological specification

19.10.2004
SIG: Philosophy and Informatics

Ruth Hagenruber
[www. uni-koblenz.de/~hagenru](http://www.uni-koblenz.de/~hagenru)

2. Formalized representations

We define formalized representations as knowledge, if they:

- are connected in a *coherent* manner
- Lead to conclusions, that *correlate* to our reception of reality

3. Parts of the process: Analysis and Synthesis

- Dihairesis / Analysis: analytic reconstruction of an entity (colour, size, connected with ...)
- Synthesis : To adjust knowledge to reality

4. Thinking

- Synthetic act
- Inventing orders and taxonomies
- Adapting propositions into taxonomies
- Dynamic process

19.10.2004
SIG: Philosophy and Informatics

Ruth Hagengruber
www.uni-koblenz.de/~hagengru

5. Thinking as a process

- In contrast to machine learning, human achievement in the form of outstanding thought is not typically regarded as the result of a quantifiable process, but as the result of a qualitative process.
- For human thought, the decisive factor is *how* existing knowledge is associated.
- Because our world changes constantly, our knowledge of that world has to change.

19.10.2004
SIG: Philosophy and Informatics

Ruth Hagengruber
www.uni-koblenz.de/~hagengru

6. Machine Learning

- Aggregation: seizes the world cutout; a representation of objects, events, classes ...
- Definition: characterization of entities according to "substantial" criteria and the order pattern (similarities or agreeing characteristics ...)
- Retrieval: representations are dependent on situations, characteristics are relatively and context-bound and an exchange of views and meanings will not emerge.

19.10.2004
SIG: Philosophy and Informatics

Ruth Hagengruber
www.uni-koblenz.de/~hagengru

7. Objections

- Pragmatic realism: All possible world views should be derivable from the axioms
 -
 - Pure possibilities are useless varieties.
- Machine processes record an infinite number of properties $(x)^2$ - the more we put in - the more comes out?

19.10.2004
SIG: Philosophy and Informatics

Ruth Hagengruber
www.uni-koblenz.de/~hagengru

8. Reality

- Reality is not the sum of all options that can be deduced by formalized analytic operations.
- Not all relations that are possible are real.

19.10.2004
SIG: Philosophy and Informatics

Ruth Hagengruber
www.uni-koblenz.de/~hagengru

9. Epistemological advantage

Synthesis: Adaption of knowledge to generate new knowledge about the world (dynamic part of the process)

Analytic reconstruction of necessary or well founded relations implies research on static relations within the process.

19.10.2004
SIG: Philosophy and Informatics

Ruth Hagengruber
www.uni-koblenz.de/~hagengru

10. Thank you.

19.10.2004
SIG: Philosophy and Informatics

Ruth Hagenhuber
[www. uni-koblenz.de/~hagenru](http://www.uni-koblenz.de/~hagenru)